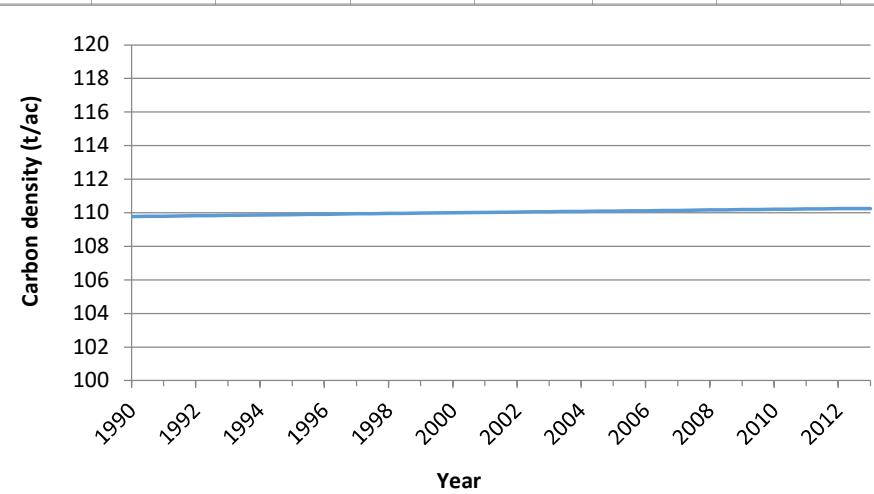


carbon density calculations

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Tg	1040.530964	1041.317	1042.103	1042.889	1043.675	1044.461	1045.247	1046.033	1046.819	1047.605	1048.391	1049.177	1049.963	1050.749	1051.535	1052.321	1053.107	1053.893	1054.679	1055.465
tonne	1040530964	1.04E+09	1.04E+09	1.04E+09	1.044E+09	1.04E+09	1.05E+09	1.06E+09												
kha	4125.606834	4128.531	4131.455	4134.38	4137.3039	4140.228	4143.152	4146.077	4149.001	4151.925	4154.849	4157.774	4160.698	4163.622	4166.546	4169.471	4172.395	4175.319	4178.243	4181.168
ha	4125606.834	4128531	4131455	4134380	4137303.9	4140228	4143152	4146077	4149001	4151925	4154849	4157774	4160698	4163622	4166546	4169471	4172395	4175319	4178243	4181168
ac	10194374.49	10201600	10208826	10216052	10223278	10230504	10237730	10244955	10252181	10259407	10266633	10273859	10281085	10288310	10295536	10302762	10309988	10317214	10324440	10331665
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	102.0691329	102.0739	102.0786	102.0834	102.0881	102.0928	102.0975	102.1023	102.107	102.1117	102.1164	102.121	102.1257	102.1304	102.1351	102.1397	102.1444	102.149	102.1537	102.1583



forest carbon density calculations

	Chugach	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Tg	86.31646	86.52835	86.740228	86.95211	87.16399	87.37587	87.58776	87.79964	88.01152	88.2234	88.43528	88.64717	88.85905	89.07093	89.28281	89.49469	89.70658	89.91846	
tonne	86316464	86528345	86740228	86952110	87163992	87375874	87587755	87799637	88011520	88223401	88435284	88647166	88859048	89070928	89282811	89494694	89706576	89918457	

			kha	426.9022	427.2048	427.50729	427.8098	428.1123	428.4149	428.7174	429.0199	429.3224	429.625	429.9275	430.23	430.5325	430.8351	431.1376	431.4401	431.7426	432.0452
			ha	426902.2	427204.8	427507.29	427809.8	428112.3	428414.9	428717.4	429019.9	429322.4	429625	429927.5	430230	430532.5	430835.1	431137.6	431440.1	431742.6	432045.2
			ac	1054875	1055623	1056370.5	1057118	1057866	1058613	1059361	1060108	1060856	1061603	1062351	1063098	1063846	1064593	1065341	1066089	1066836	1067584
		Tongass	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
		Tg	954.2145	954.7886	955.36277	955.9369	956.511	957.0852	957.6593	958.2334	958.8076	959.3817	959.9558	960.53	961.1041	961.6782	962.2524	962.8265	963.4006	963.9748	
		tonne	9.54E+08	9.55E+08	955362767	9.56E+08	9.57E+08	9.57E+08	9.58E+08	9.58E+08	9.59E+08	9.59E+08	9.6E+08	9.61E+08	9.61E+08	9.62E+08	9.62E+08	9.63E+08	9.63E+08	9.64E+08	
		kha	3698.705	3701.326	3703.9481	3706.57	3709.192	3711.813	3714.435	3717.057	3719.678	3722.3	3724.922	3727.544	3730.165	3732.787	3735.409	3738.031	3740.652	3743.274	
		ha	3698705	3701326	3703948.1	3706570	3709192	3711813	3714435	3717057	3719678	3722300	3724922	3727544	3730165	3732787	3735409	3738031	3740652	3743274	
		ac	9139499	9145977	9152455.7	9158934	9165412	9171891	9178369	9184847	9191325	9197804	9204282	9210760	9217239	9223717	9230195	9236674	9243152	9249630	
			1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
	Chugach	81.82621	81.96899	82.111557	82.25393	82.39609	82.53806	82.67982	82.82139	82.96276	83.10392	83.24489	83.38567	83.52624	83.66661	83.80679	83.94677	84.08656	84.22615		
	Tongass	104.4056	104.3944	104.38322	104.3721	104.3609	104.3498	104.3387	104.3276	104.3166	104.3055	104.2945	104.2835	104.2725	104.2615	104.2505	104.2395	104.2286	104.2177		
			1990	2013																	
			Chugach	81.82621	85.0596																
			Tongass	104.4056	104.1524																
	average change																				
		1990-2013																			
	Chugach	0.140582																			
	Tongass	-0.01101																			

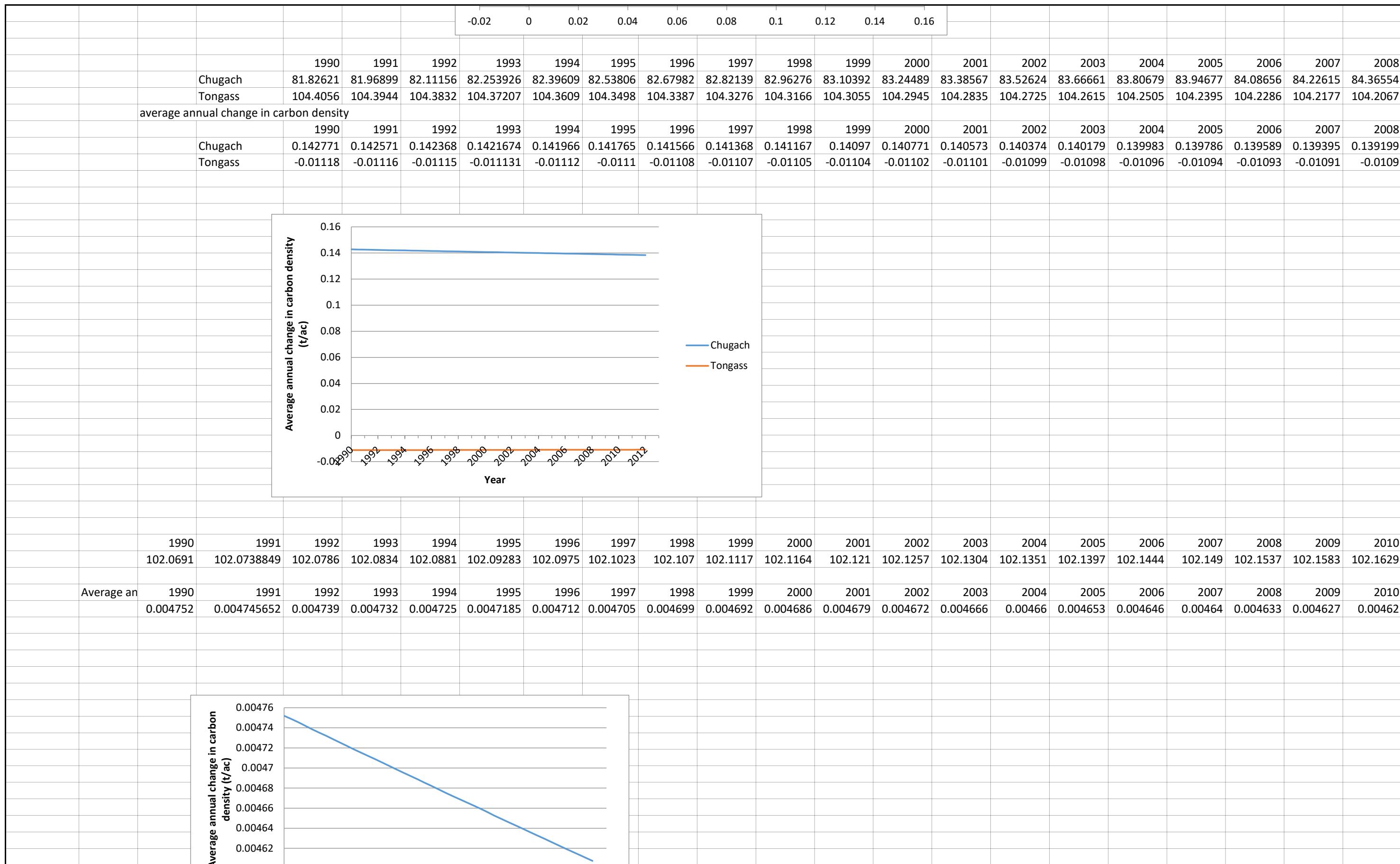
Carbon density (t/ac)

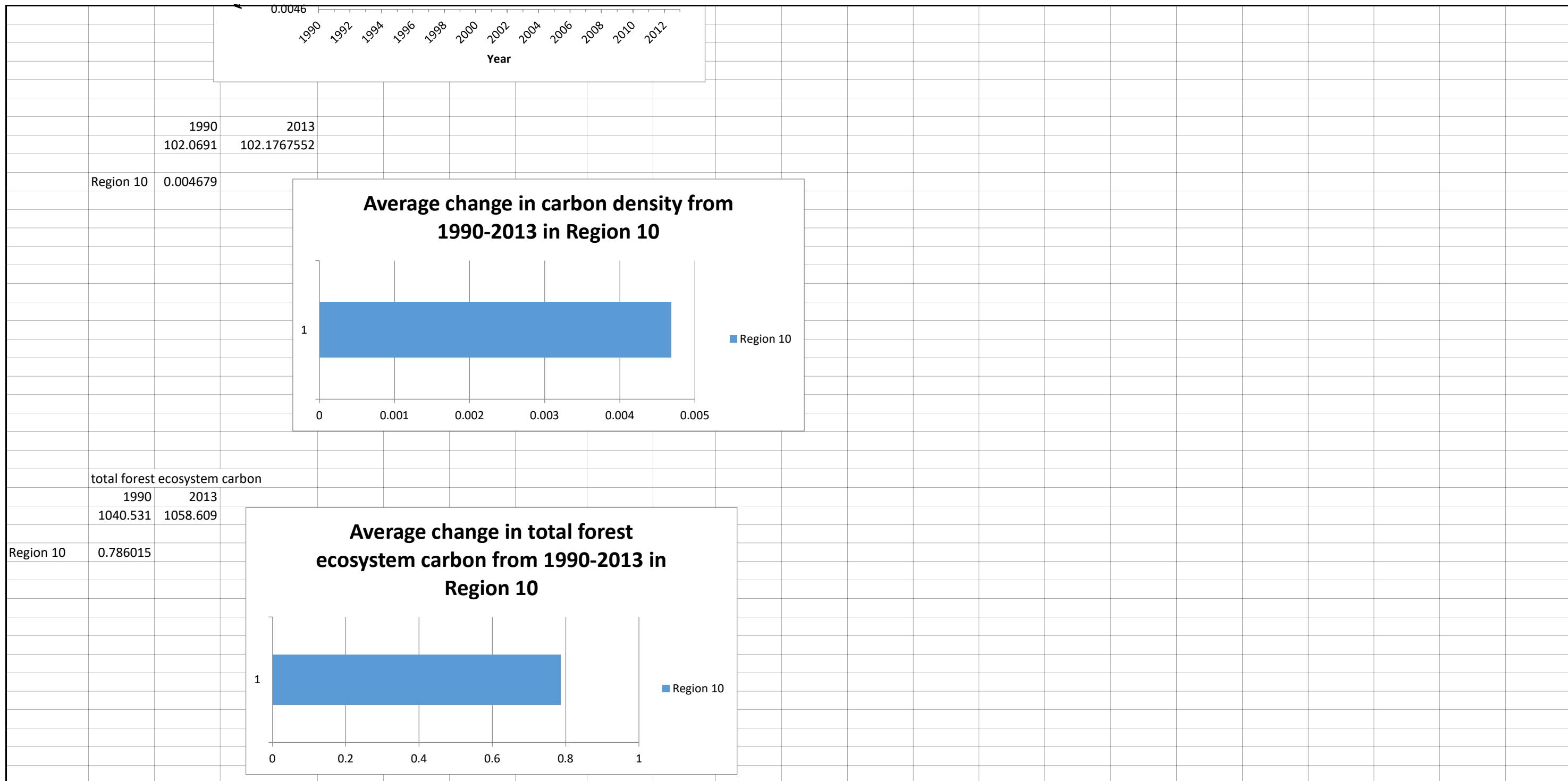
Year

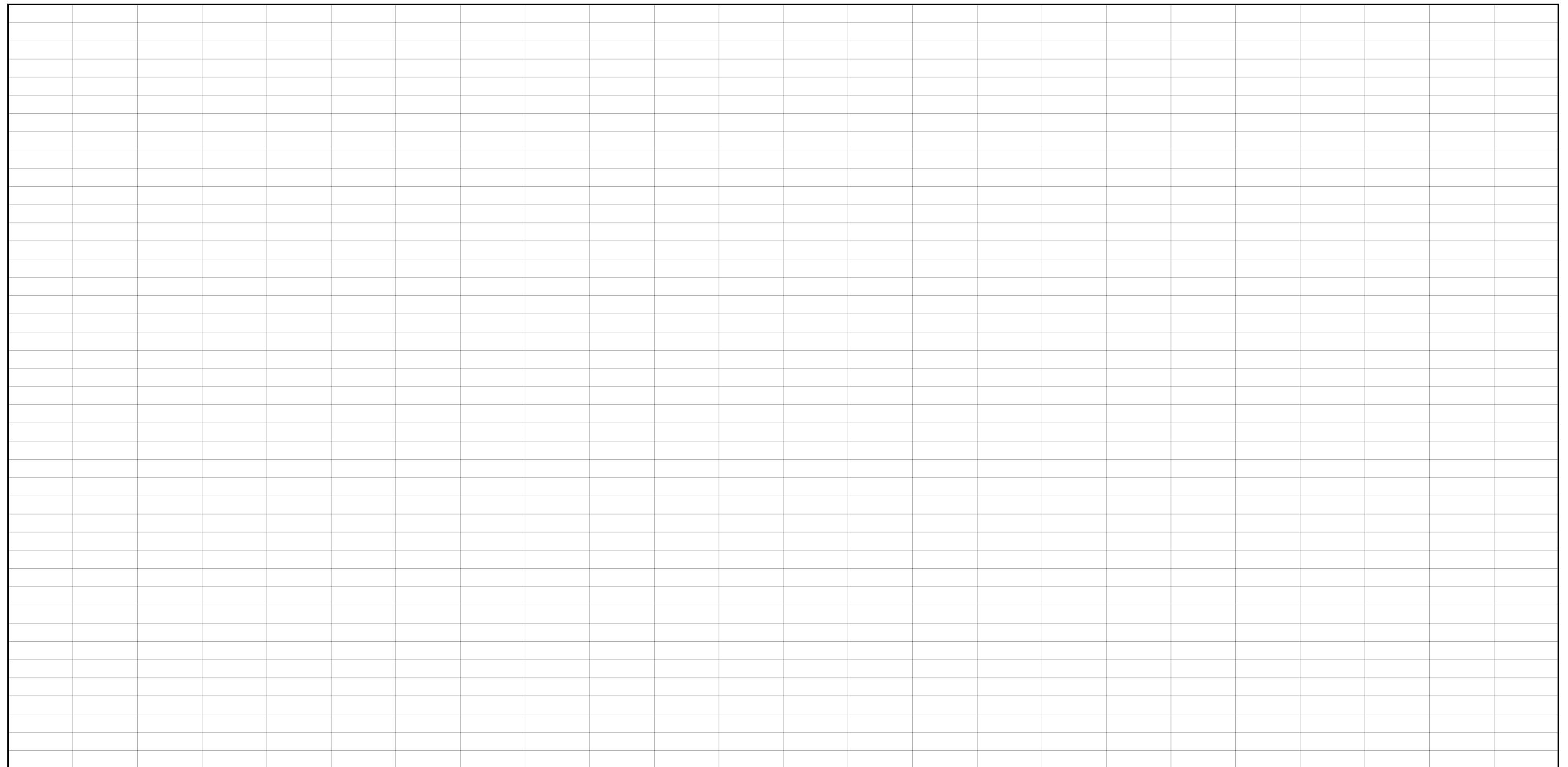
- Chugach
- Tongass

Average change in carbon density from 1990 - 2013

Region	Average Change (t/ac)
Chugach	0.140582
Tongass	-0.01101



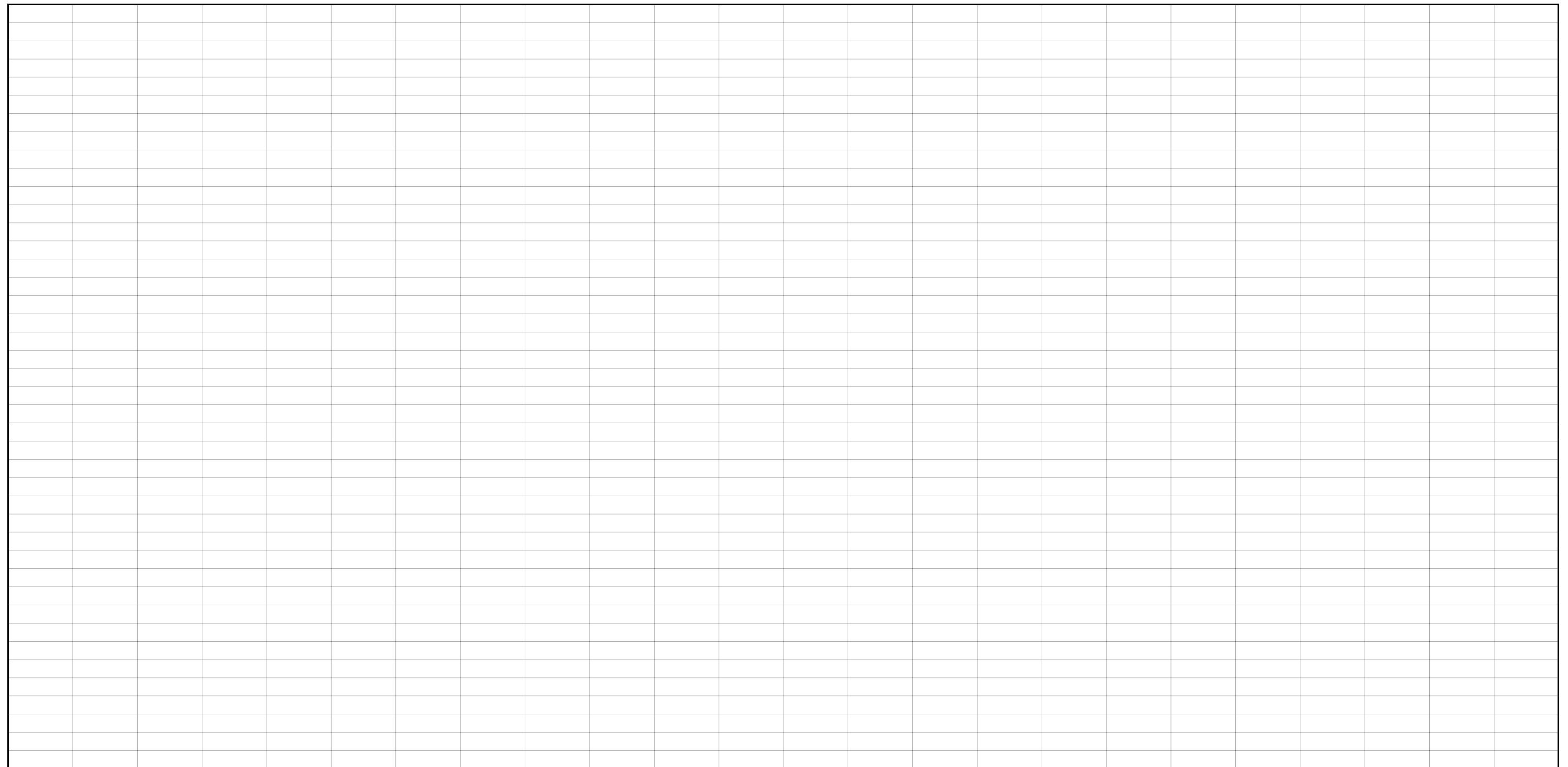








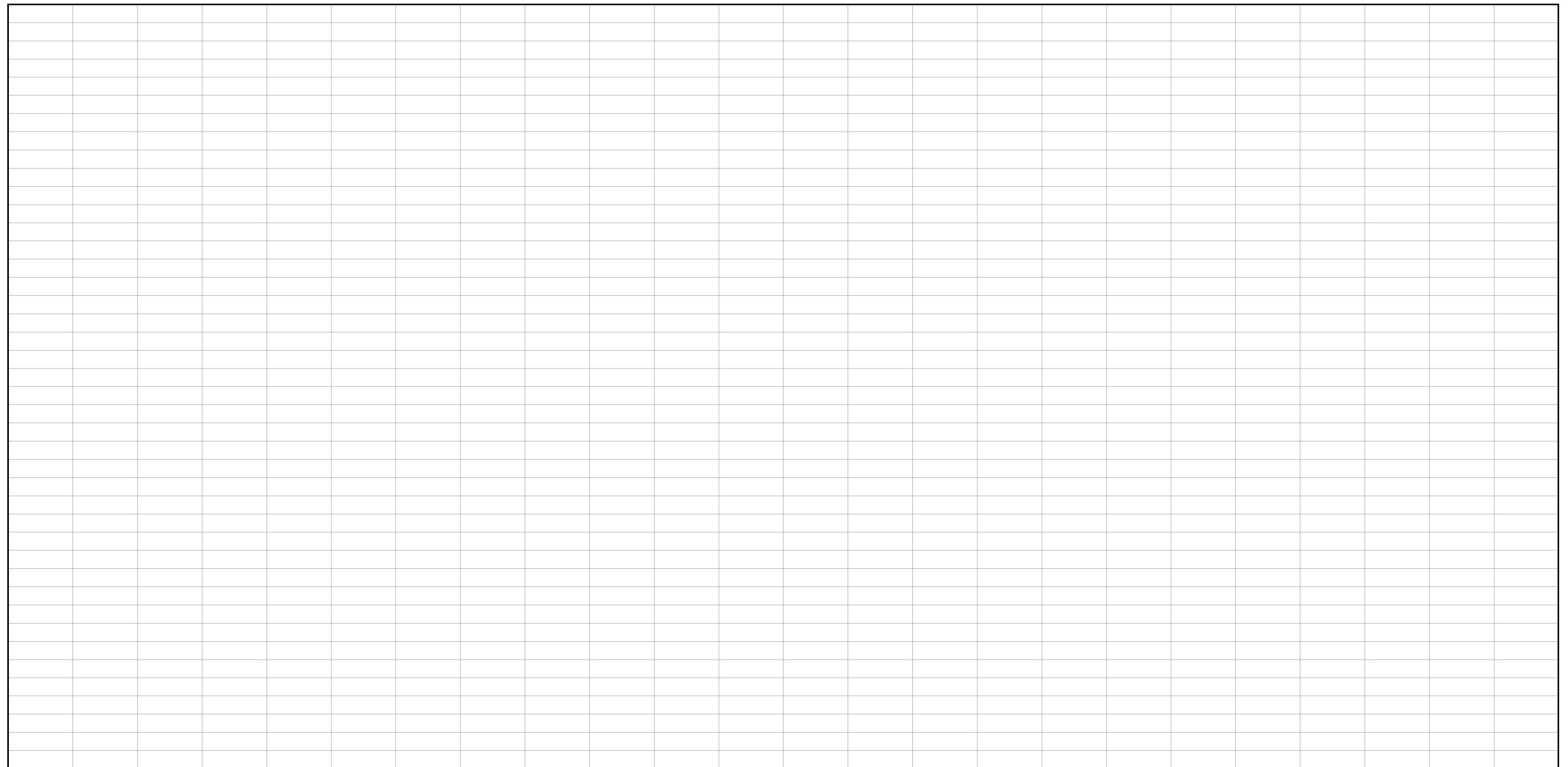










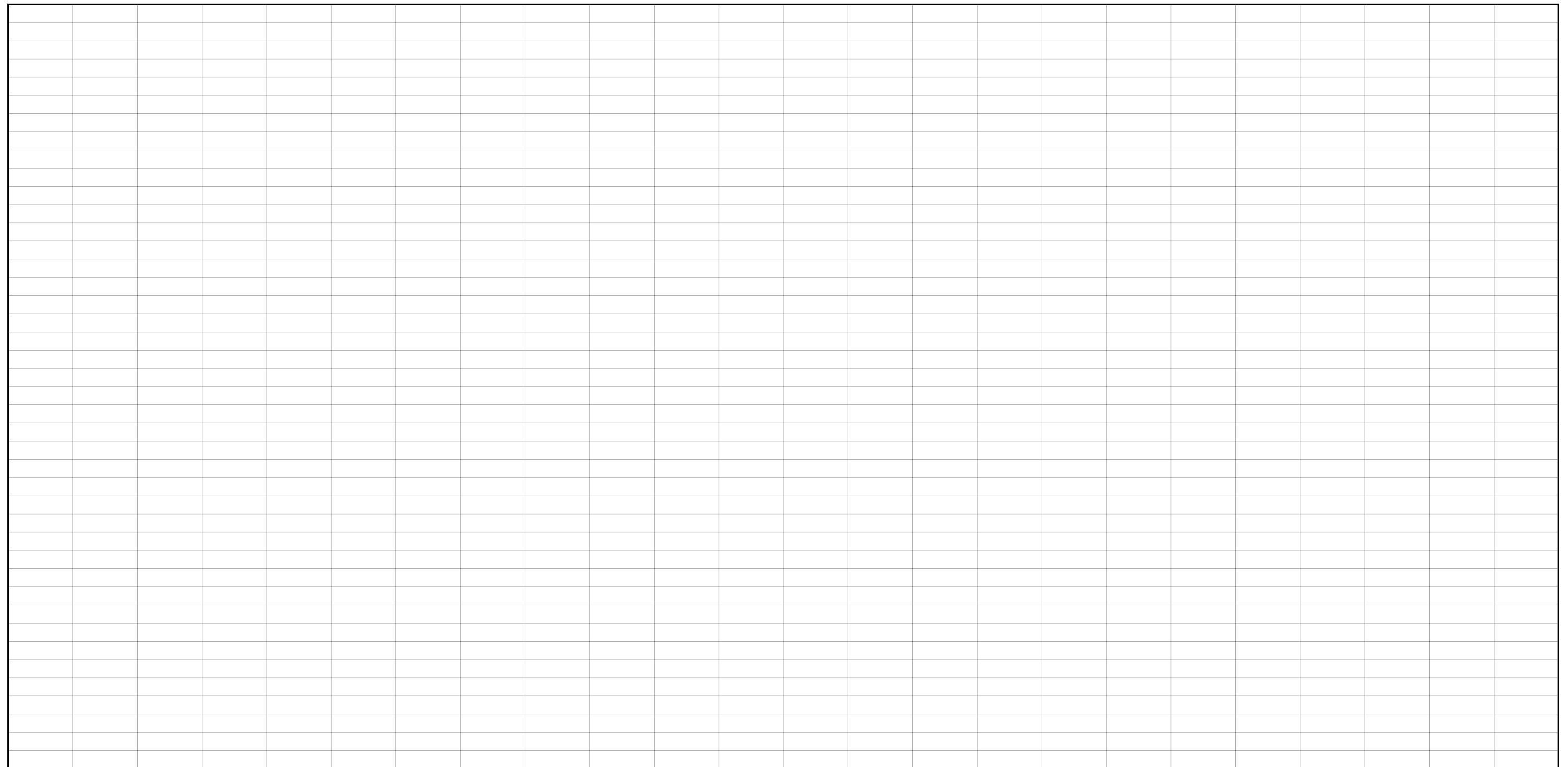


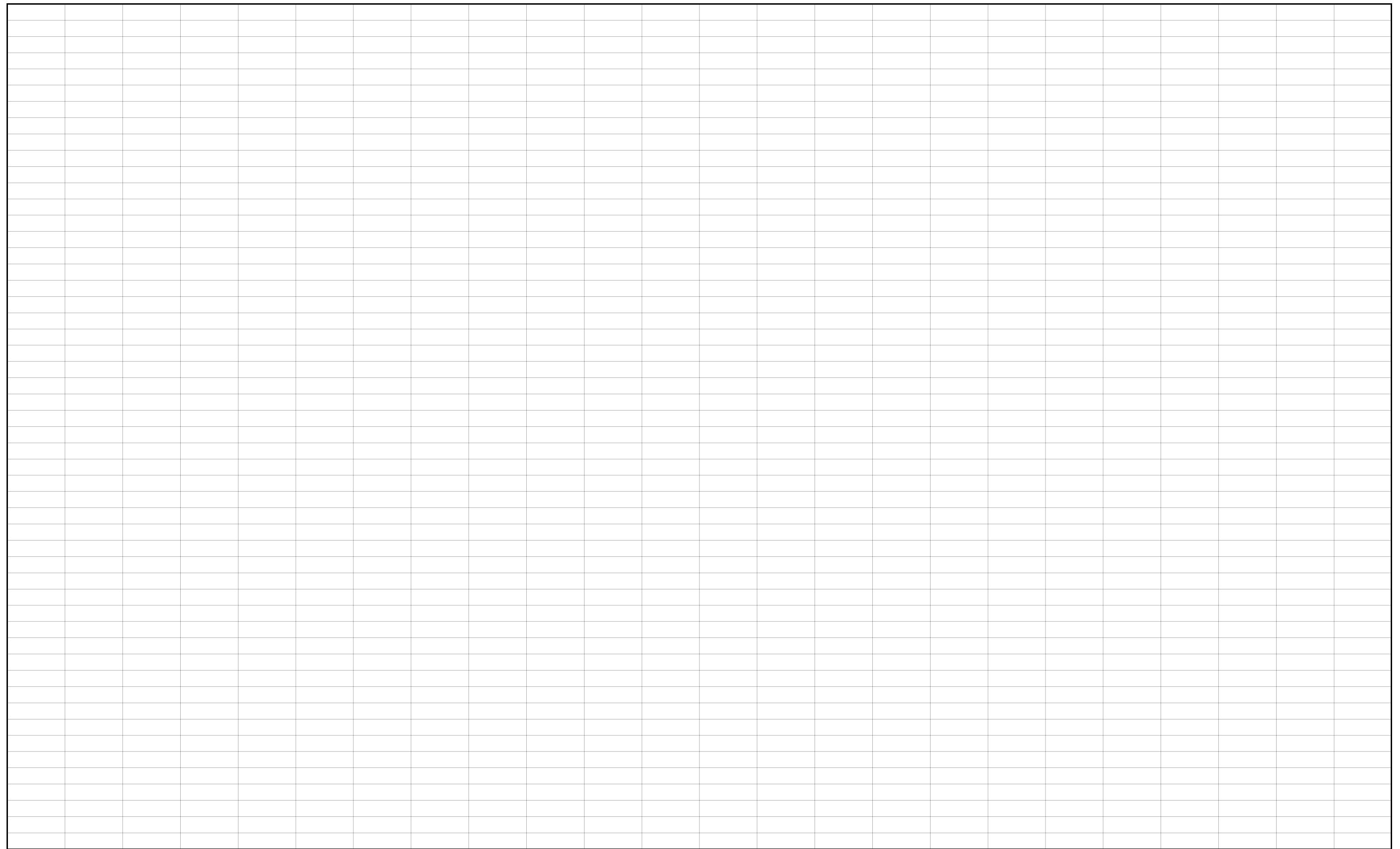
STANDING	DEAD_Tg	DOWNDEA_1990	DOWNDEA_1991	DOWNDEA_1992	DOWNDEA_1993	DOWNDEA_1994	DOWNDEA_1995	DOWNDEA_1996	DOWNDEA_1997	DOWNDEA_1998	DOWNDEA_1999	DOWNDEA_2000	DOWNDEA_2001	DOWNDEA_2002	DOWNDEA_2003	DOWNDEA_2004	DOWNDEA_2005								
2007	2008	2009	2010	2011	2012	2013			6.324106	6.243844	6.163582	6.08332	6.003058	5.922796	5.842534	5.762272	5.68201	5.601748	5.521486	5.441224	5.360962	5.2807	5.200438	5.120176	
1.279935	1.259222	1.238509	1.217796	1.197083	1.176369	1.155656			55.87385	55.82436	55.77487	55.72537	55.67588	55.62638	55.57689	55.5274	55.4779	55.42841	55.37891	55.32942	55.27992	55.23043	55.18094	55.13144	
35.67016	35.63808	35.606	35.57392	35.54184	35.50976	35.47768		0	62.19796	62.0682	61.93845	61.80869	61.67894	61.54918	61.41942	61.28967	61.15991	61.03015	60.9004	60.77064	60.64089	60.51113	60.38137	60.25162	

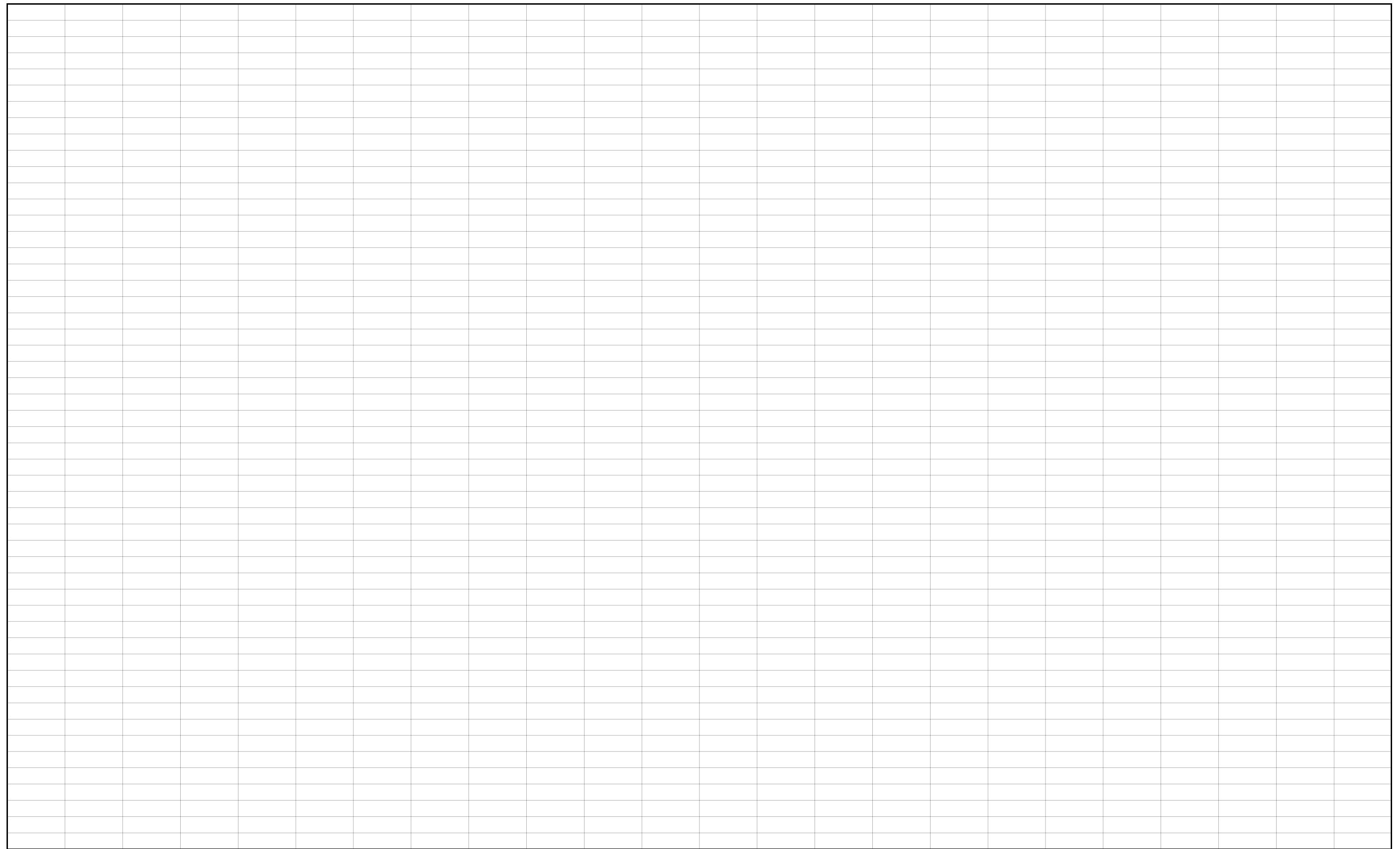


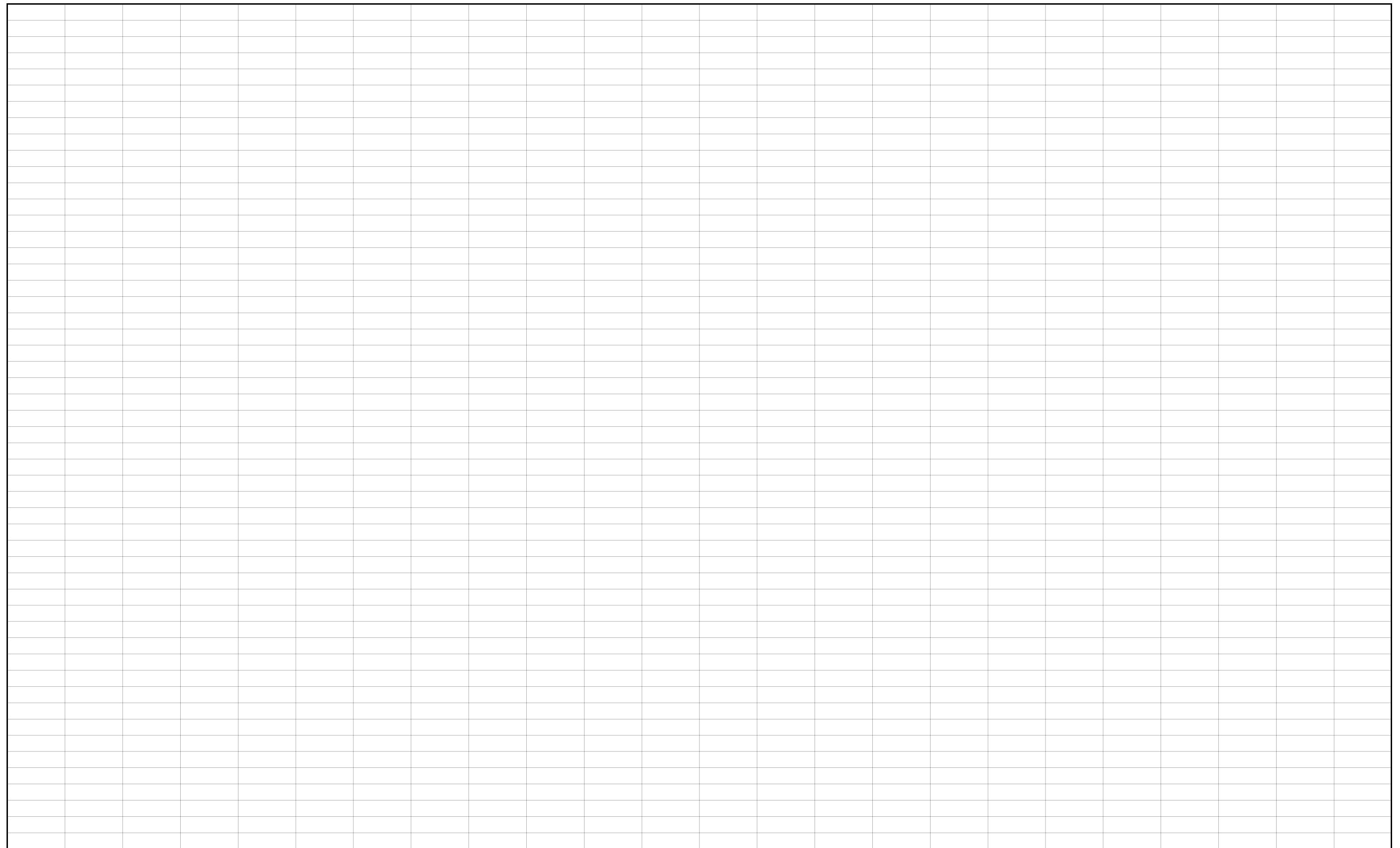


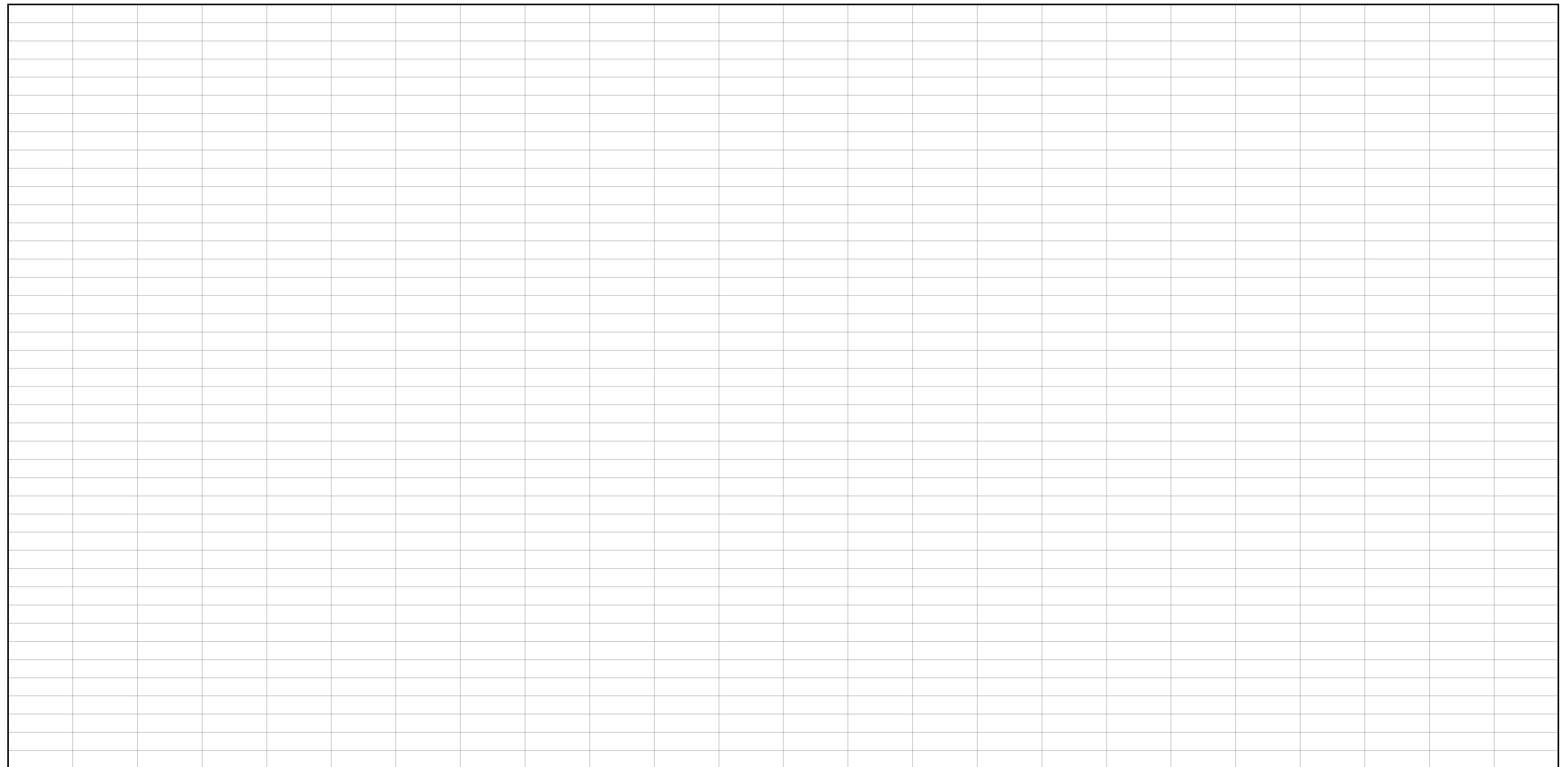


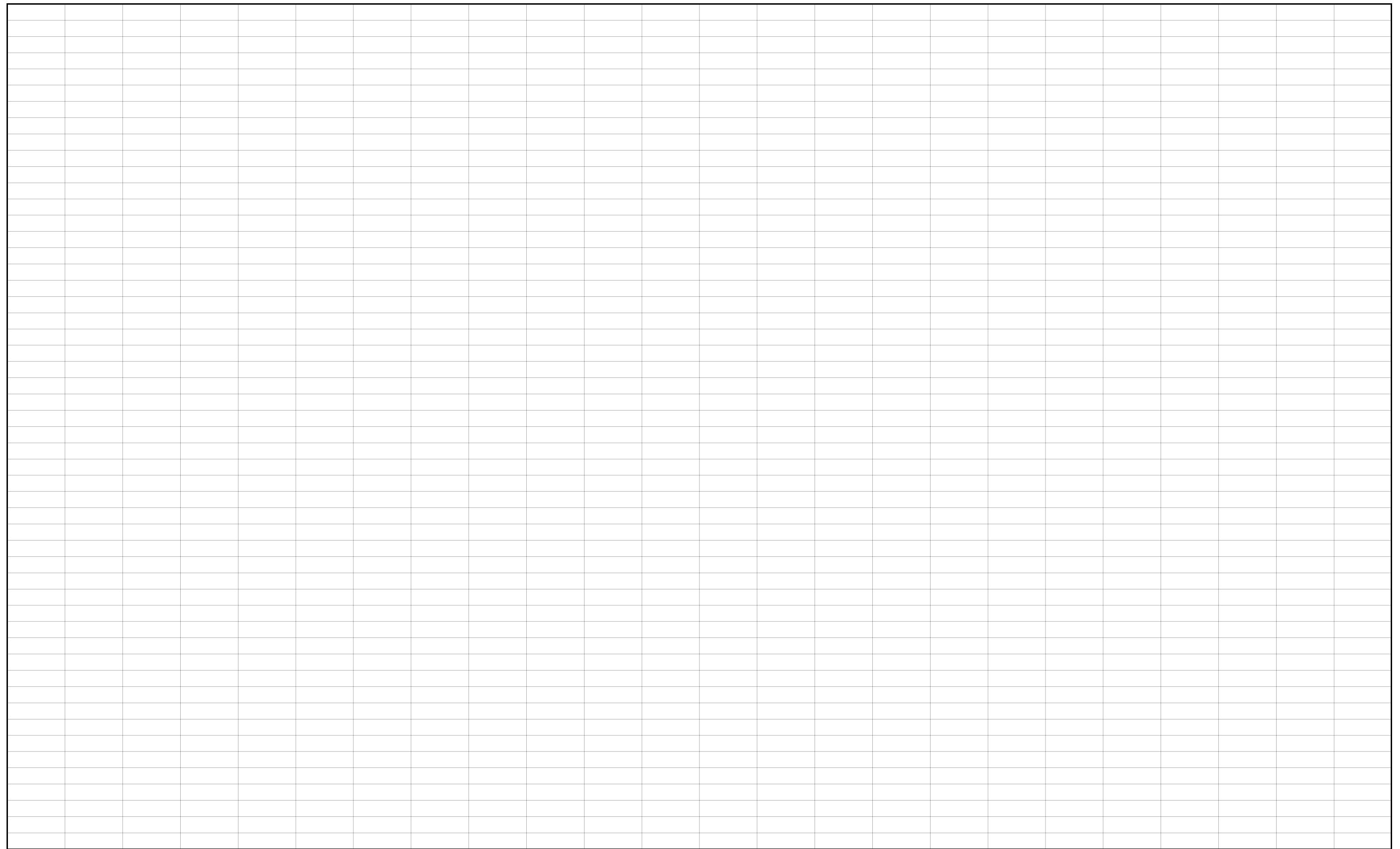




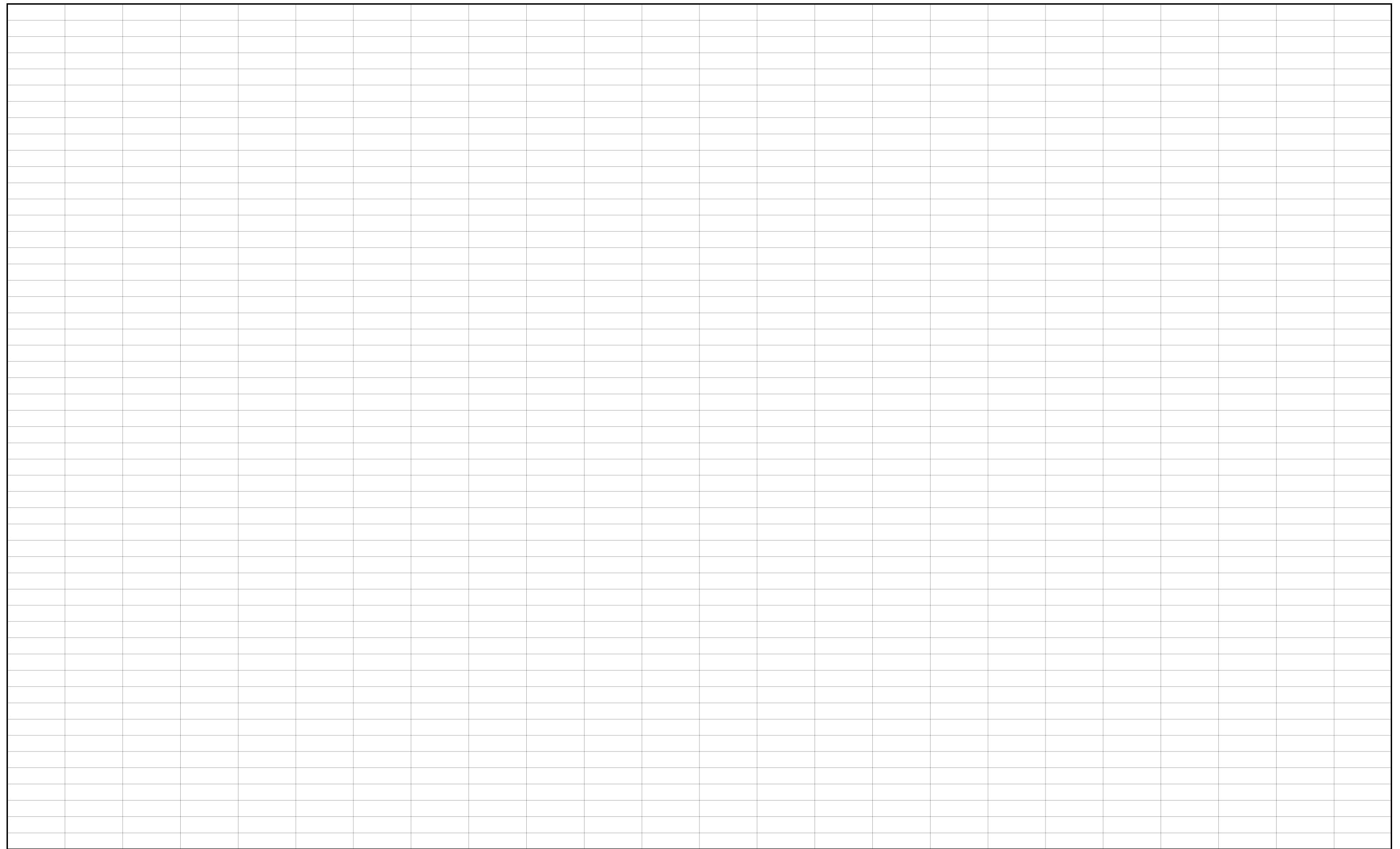






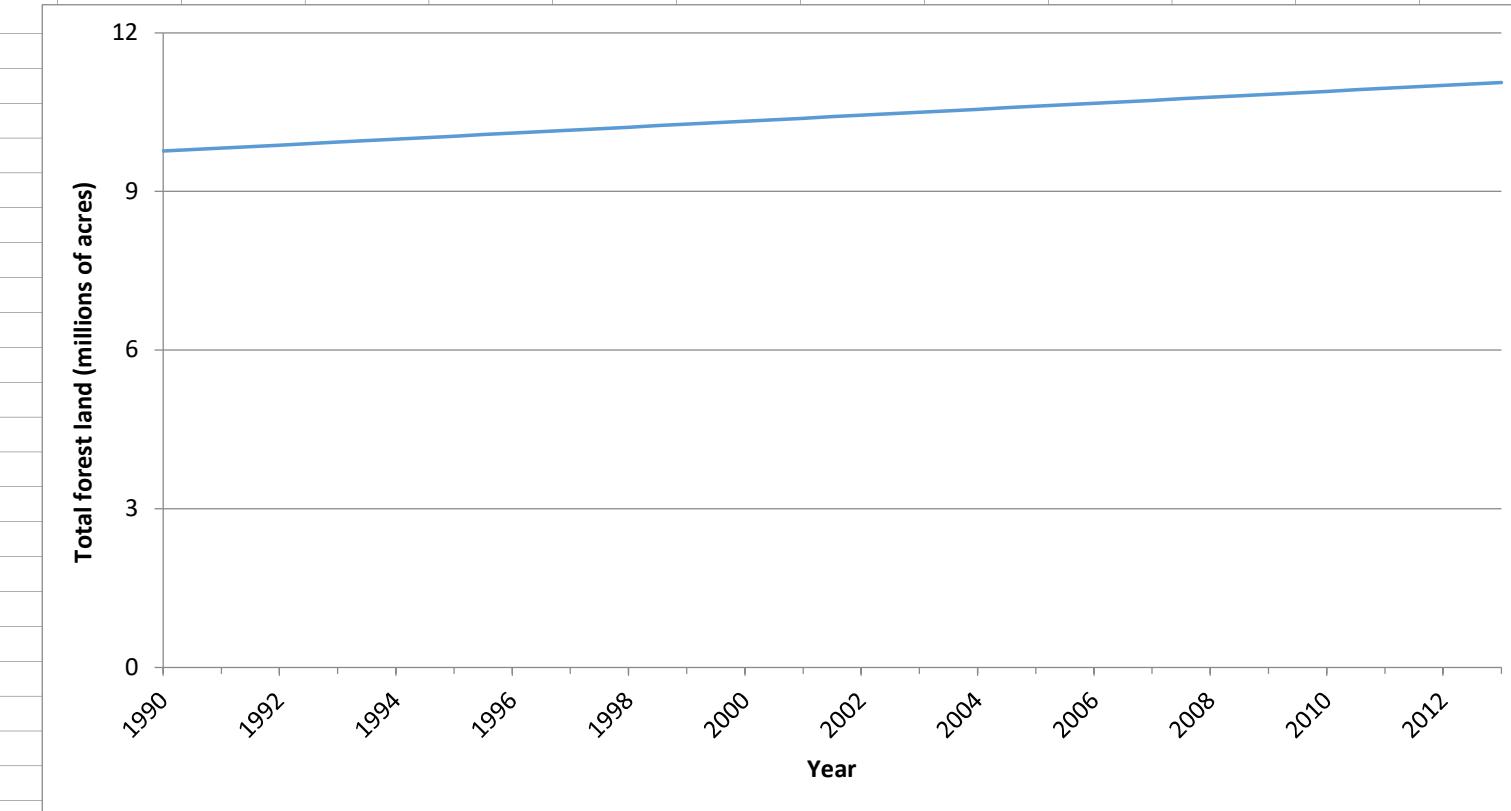








SOC_Tg	SOC_Tg	SOC_Tg	SOC_Tg	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa	AREA_KHa										
2004	2005	2006	2007	2008	2009	2010	2011	2012	2013					1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
31.86835	31.89071	31.91307	31.93543	31.95779	31.98015	32.00252	32.02488	32.04724	32.0696					426.90224	427.2048	427.5073	427.8098	428.1123	428.4149	428.7174	429.0199	429.3224	429.625	429.9275	430.23	430.5325			
336.2845	336.5205	336.7566	336.9926	337.2286	337.4646	337.7007	337.9367	338.1727	338.4087					3698.7046	3701.326	3703.948	3706.57	3709.192	3711.813	3714.435	3717.057	3719.678	3722.3	3724.922	3727.544	3730.165			
368.1529	368.4113	368.6696	368.928	369.1864	369.4448	369.7032	369.9616	370.22	370.4783	kha				4125.6068	4128.531	4131.455	4134.38	4137.304	4140.228	4143.152	4146.077	4149.001	4151.925	4154.849	4157.774	4160.698			
										ha				4125606.8	4128531	4131455	4134380	4137304	4140228	4143152	4146077	4149001	4151925	4154849	4157774	4160698			
										ac				10194374	10201600	10208826	10216052	10223278	10230504	10237730	10244955	10252181	10259407	10266633	10273859	10281085			
										millions of				10.194374	10.2016	10.20883	10.21605	10.22328	10.2305	10.23773	10.24496	10.25218	10.25941	10.26663	10.27386	10.28108			
														1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
														10.194374	10.2016	10.20883	10.21605	10.22328	10.2305	10.23773	10.24496	10.25218	10.25941	10.26663	10.27386	10.28108			

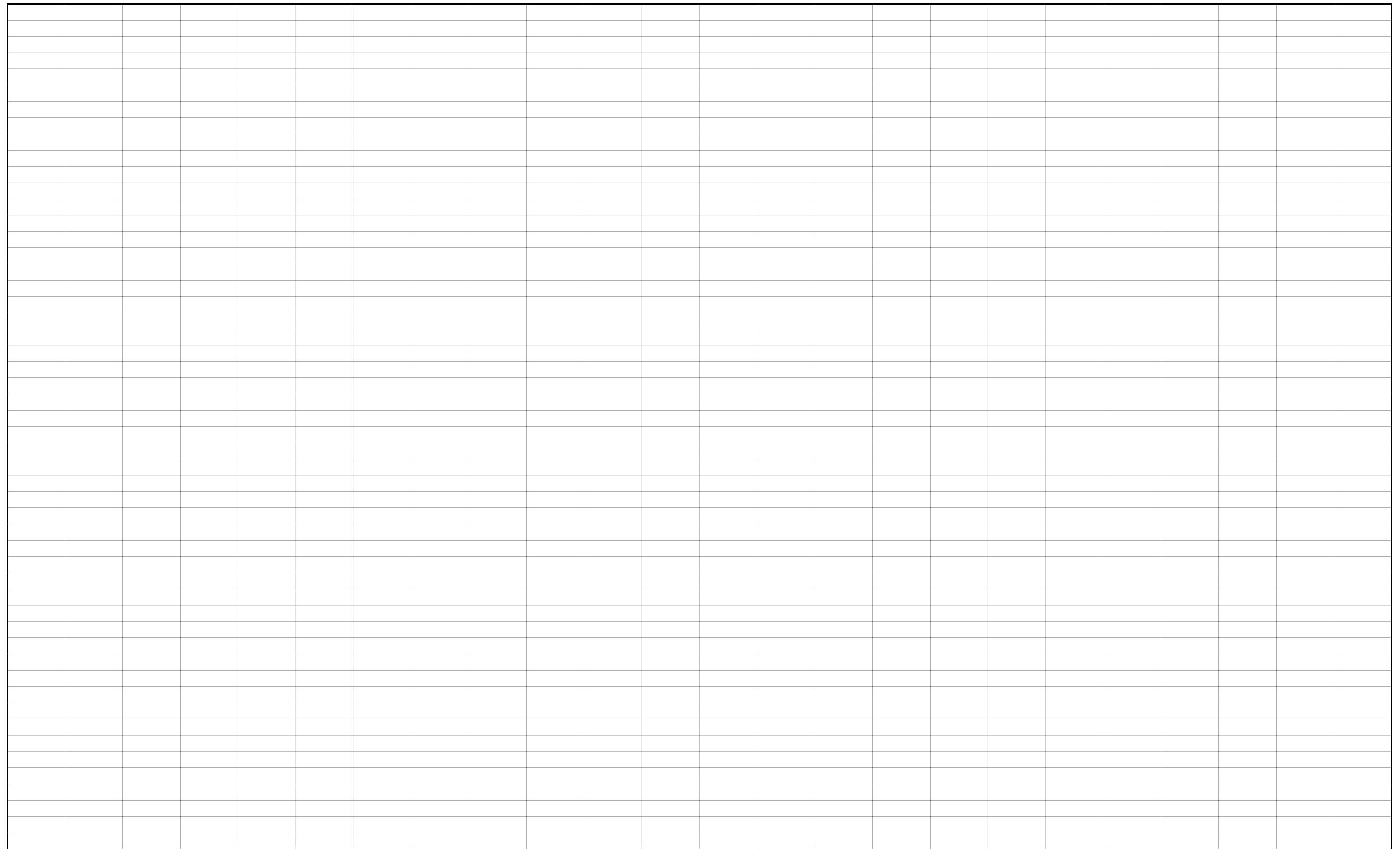


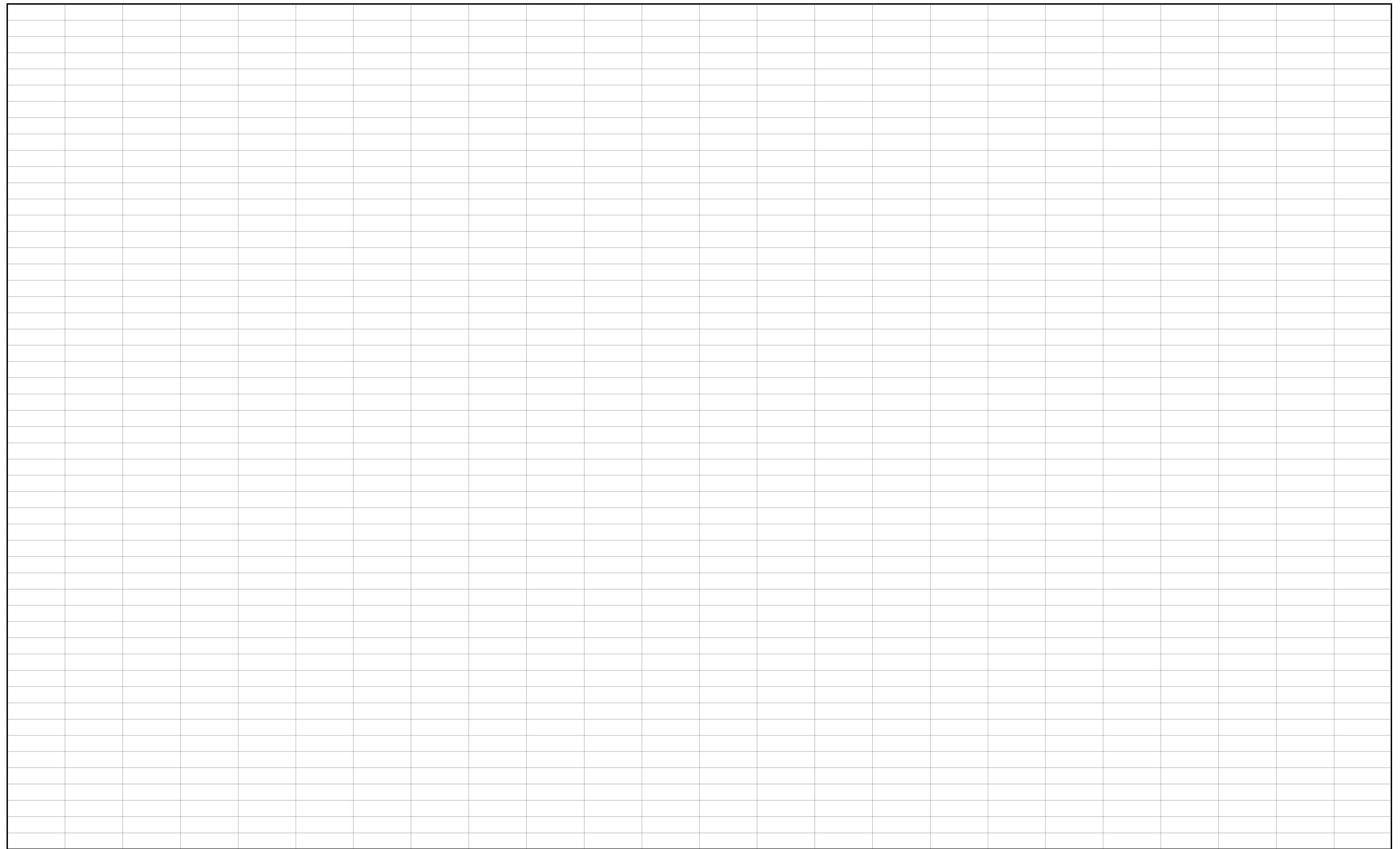




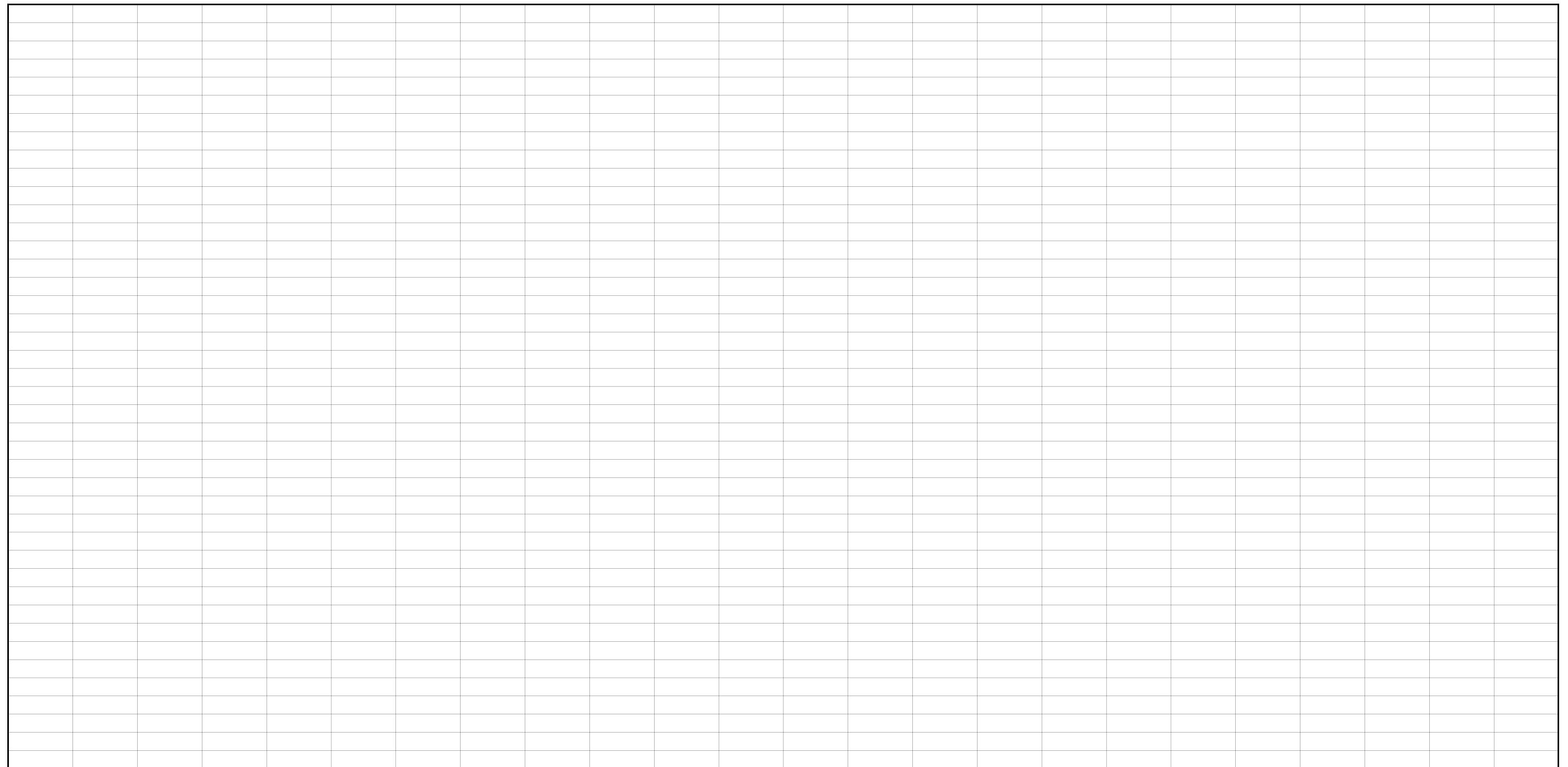




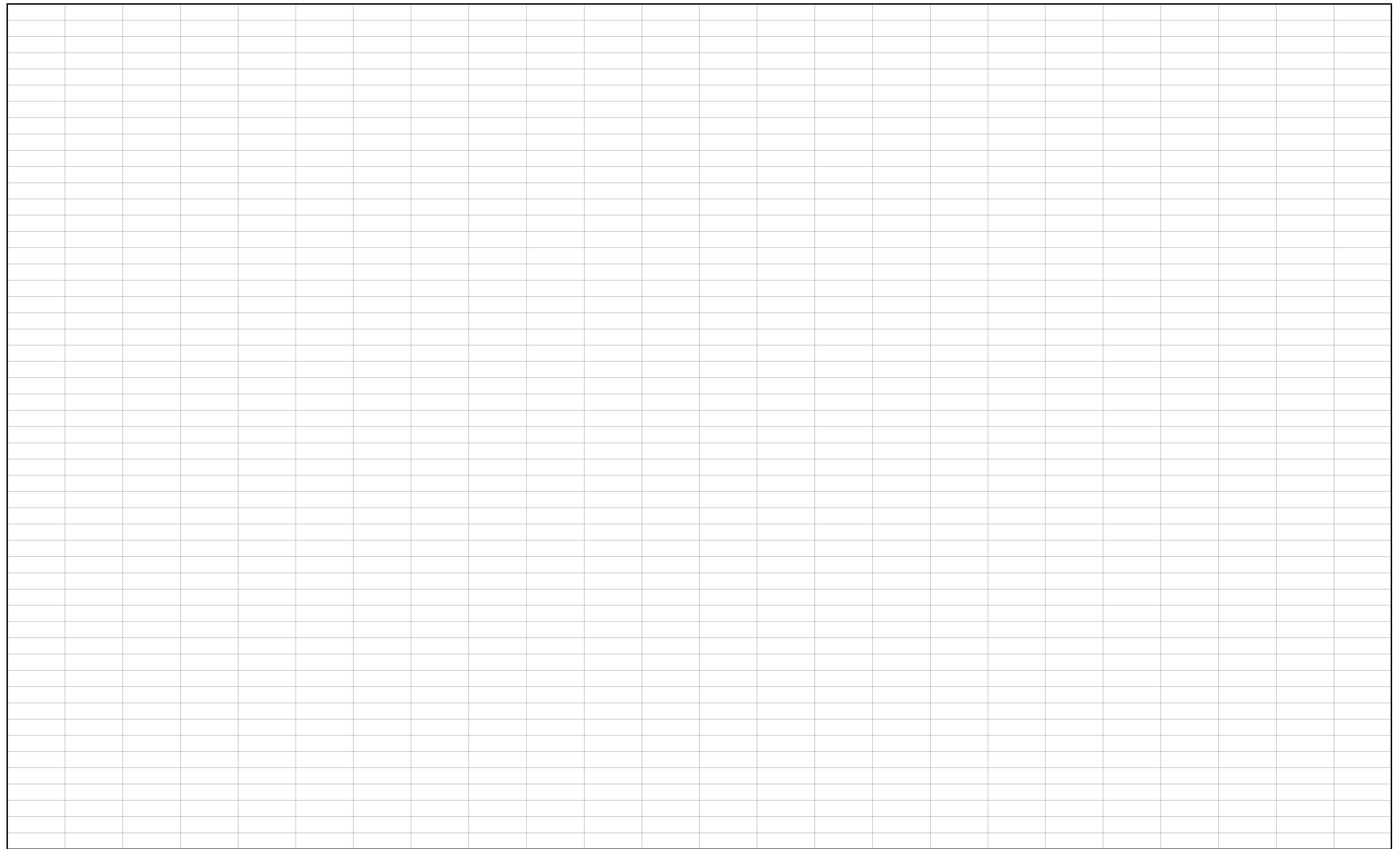


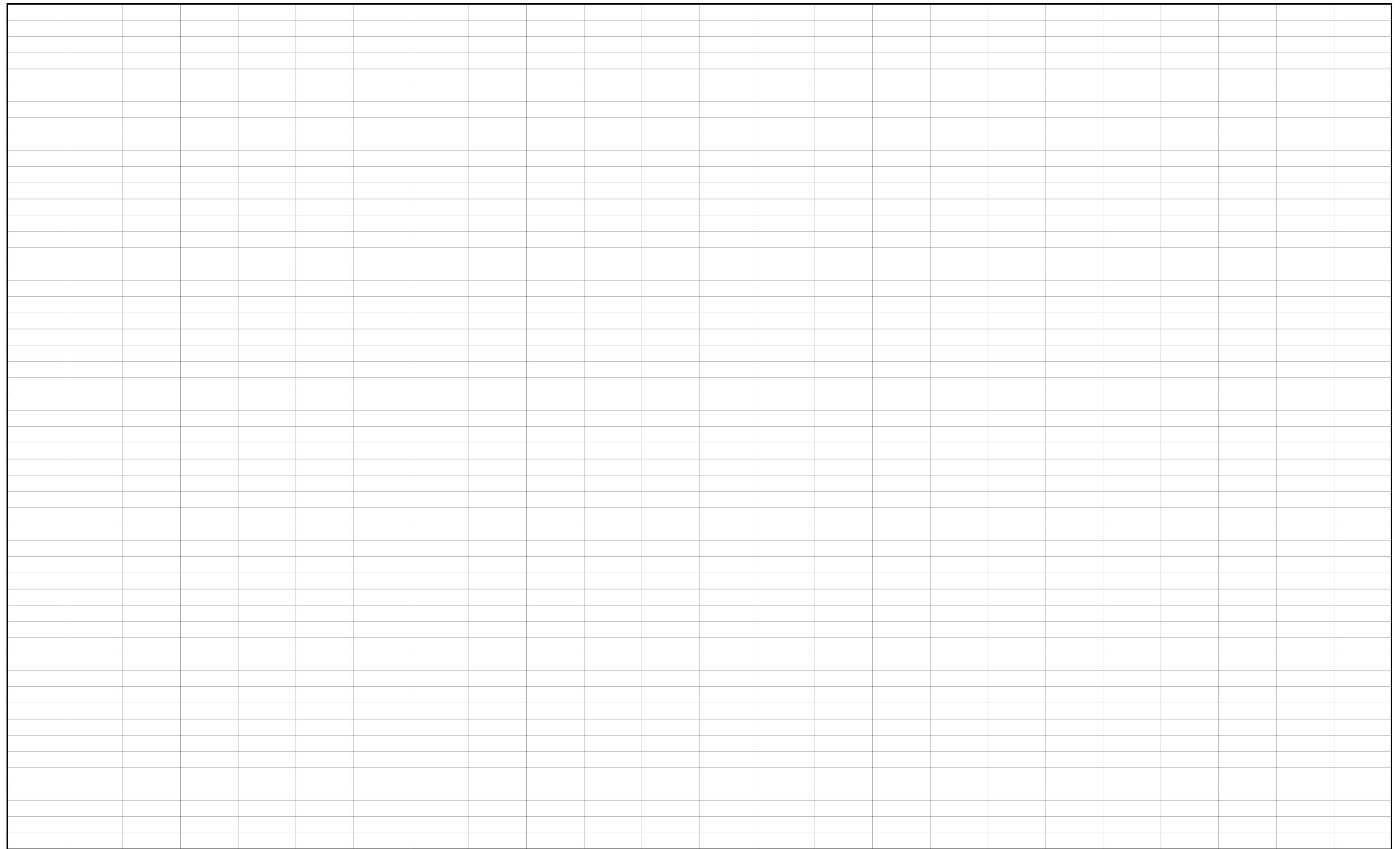


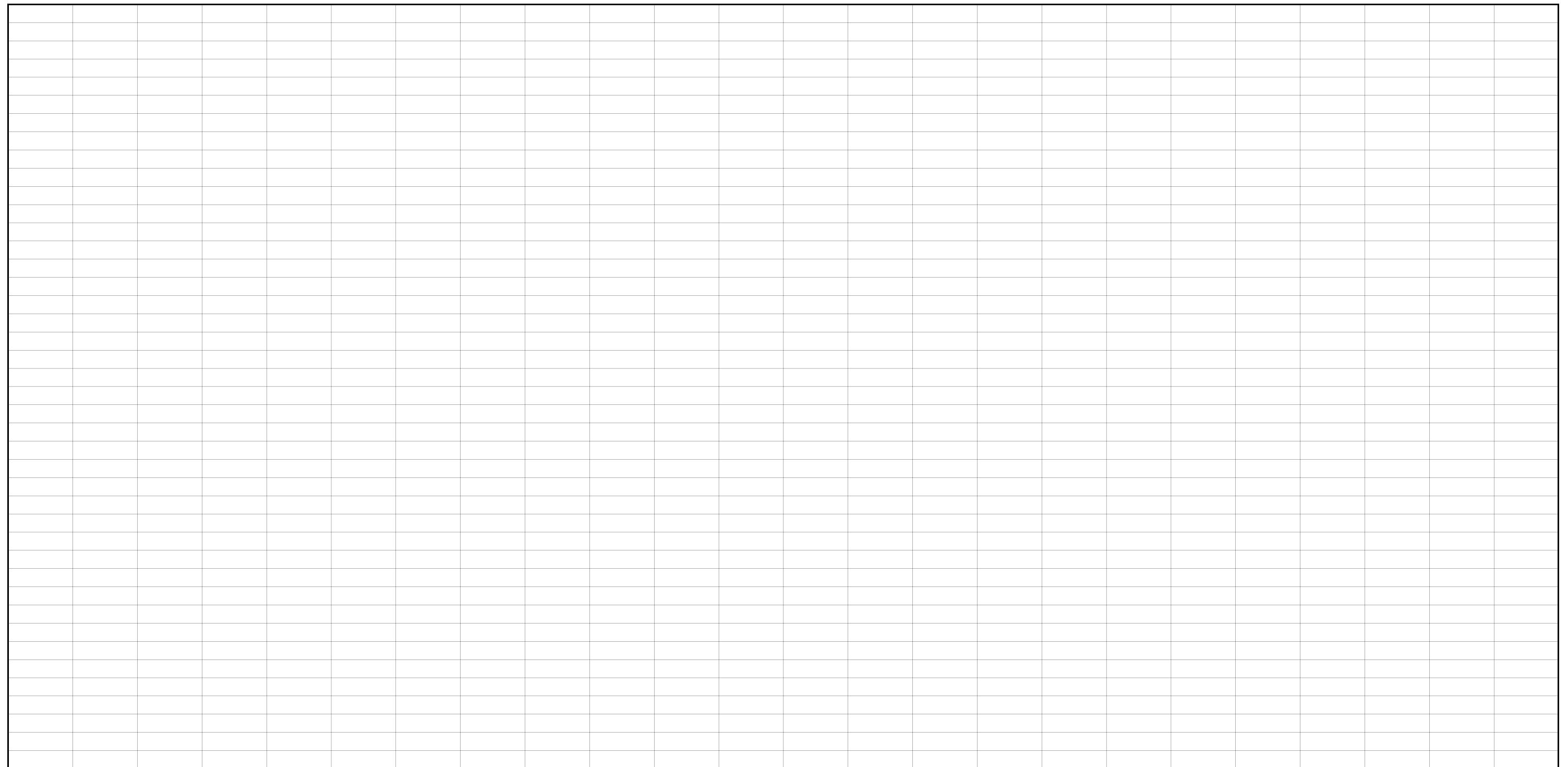








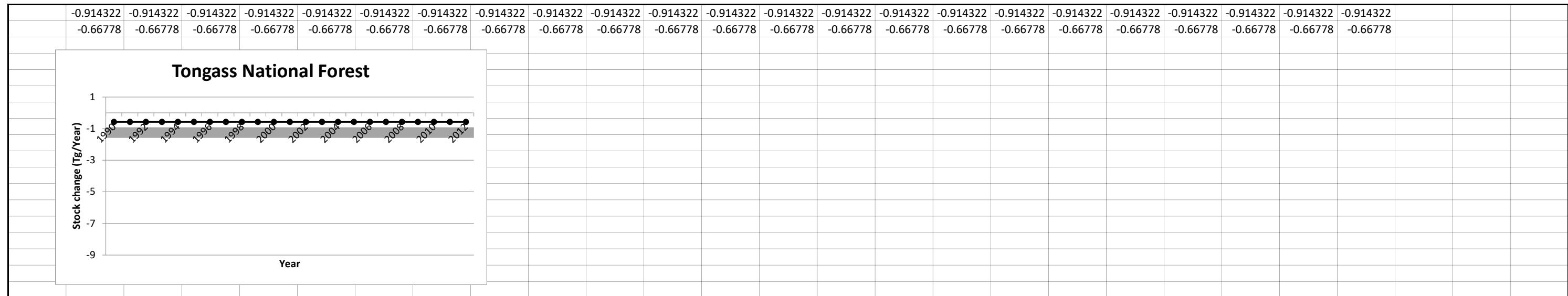




NAME	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	TOTAL_TG	FLUX_TG																																																	
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	1990																																																		
Chugach	86.31646	86.52835	86.74023	86.95211	87.16399	87.37587	87.58776	87.79964	88.01152	88.2234	88.43528	88.64717	88.85905	89.07093	89.28281	89.49469	89.70658	89.91846	90.13034	90.34222	90.5541	90.76599	90.97787	91.18975	-0.211881																																																		
Tongass	954.2145	954.7886	955.3628	955.9369	956.511	957.0852	957.6593	958.2334	958.8076	959.3817	959.9558	960.53	961.1041	961.6782	962.2524	962.8265	963.4006	963.9748	964.5489	965.123	965.6972	966.2713	966.8454	967.4196	-0.574133																																																		
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NAME	MEAN_TO12.5 percent	97.5 percer	MEAN_FLU2.5 percent	97.5 percer	MEAN_TO12.5 percent	97.5 percer	MEAN_FLU2.5 percent	97.5 percentile																																																																			
	1990-1994	1990-1994	1990-1994	1990-1994	1990-1994	1990-1994	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012	2008-2012																																																			
Chugach	86.74023	67.01849	107.7693	-0.211882	-0.450304	0.02407	90.5541	68.57182	114.7332	-0.211882	-0.450304	0.02407																																																															
Tongass	955.3628	900.9527	1010.935	-0.574133	-0.914322	-0.246543	965.6972	900.3797	1029.839	-0.574133	-0.914322	-0.246543																																																															
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Carbon stocks																																																																											
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013																																																			
Chugach	86.31646	86.52835	86.74023	86.95211	87.16399	87.37587	87.58776	87.79964	88.01152	88.2234	88.43528	88.64717	88.85905	89.07093	89.28281	89.49469	89.70658	89.91846	90.13034	90.34222	90.5541	90.76599	90.97787	91.18975																																																			
high	95.40805	95.64224	95.87644	97.27833	98.68591	100.0992	101.5181	102.9428	104.3731	105.8092	107.2509	108.6983	110.1514	111.6102	113.0747	114.5449	116.0207	117.5023	118.9895	120.4825	121.9811	122.2665	122.5519	122.8373																																																			
low	59.33139	59.47703	59.62267	60.33694	61.05399	61.77381	62.49639	63.22175	63.94988	64.68078	65.41446	66.1509	66.89012	67.6321	68.37686	69.12439	69.87469	70.62776	71.38361	72.14222	72.90361	73.07419	73.24477	73.41535																																																			
band	36.07666	36.16522	36.25378	36.94139	37.63192	38.32537	39.02174	39.72103	40.42324	41.12837	41.83642	42.54739	43.26128	43.97809	44.69782	45.42046	46.14603	46.87452	47.60592	48.34024	49.07749	49.19232	49.30716	49.42199																																																			
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013																																																			
Chugach	86.31646	86.52835	86.74023	86.95211	87.16399	87.37587	87.58776	87.79964	88.01152	88.2234	88.43528	88.64717	88.85905	89.07093	89.28281	89.49469	89.70658	89.91846	90.13034	90.34222	90.5541	90.76599	90.97787	91.18975																																																			
low	59.33139	59.47703	59.62267	60.33694	61.05399	61.77381	62.49639	63.22175	63.94988	64.68078	65.41446	66.1509	66.89012	67.6321	68.37686	69.12439	69.87469	70.62776	71.38361	72.14222	72.90361	73.07419	73.24477	73.41535																																																			
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Chugach National Forest																																																																											
<table border="1"> <caption>Estimated Carbon Stocks (Tg) for Chugach National Forest</caption> <thead> <tr> <th>Year</th> <th>Carbon Stocks (Tg)</th> </tr> </thead> <tbody> <tr><td>1990</td><td>~100</td></tr> <tr><td>1991</td><td>~100</td></tr> <tr><td>1992</td><td>~100</td></tr> <tr><td>1993</td><td>~100</td></tr> <tr><td>1994</td><td>~100</td></tr> <tr><td>1995</td><td>~100</td></tr> <tr><td>1996</td><td>~100</td></tr> <tr><td>1997</td><td>~100</td></tr> <tr><td>1998</td><td>~100</td></tr> <tr><td>1999</td><td>~100</td></tr> <tr><td>2000</td><td>~100</td></tr> <tr><td>2001</td><td>~100</td></tr> <tr><td>2002</td><td>~100</td></tr> <tr><td>2003</td><td>~100</td></tr> <tr><td>2004</td><td>~100</td></tr> <tr><td>2005</td><td>~100</td></tr> <tr><td>2006</td><td>~100</td></tr> <tr><td>2007</td><td>~100</td></tr> <tr><td>2008</td><td>~100</td></tr> <tr><td>2009</td><td>~100</td></tr> <tr><td>2010</td><td>~100</td></tr> <tr><td>2011</td><td>~100</td></tr> <tr><td>2012</td><td>~100</td></tr> <tr><td>2013</td><td>~120</td></tr> </tbody> </table>																										Year	Carbon Stocks (Tg)	1990	~100	1991	~100	1992	~100	1993	~100	1994	~100	1995	~100	1996	~100	1997	~100	1998	~100	1999	~100	2000	~100	2001	~100	2002	~100	2003	~100	2004	~100	2005	~100	2006	~100	2007	~100	2008	~100	2009	~100	2010	~100	2011	~100	2012	~100	2013	~120
Year	Carbon Stocks (Tg)																																																																										
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2010	~100																																																																										
2011	~100																																																																										
2012	~100																																																																										
2013	~120																																																																										

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carbon flux		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Chugach	-0.211881	-0.211883	-0.211882	-0.211882	-0.211882	-0.211881	-0.211882	-0.211883	-0.211881	-0.211883	-0.211882	-0.211882	-0.211882	-0.211883	-0.211883	-0.211882	-0.211881	-0.211882	-0.211881	-0.211884	-0.211881	-0.211881	-0.211883		
low	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	-0.450304	
high	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	0.02407	
Carbon stocks		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Tongass	954.2145	954.7886	955.3628	955.9369	956.511	957.0852	957.6593	958.2334	958.8076	959.3817	959.9558	960.53	961.1041	961.6782	962.2524	962.8265	963.4006	963.9748	964.5489	965.123	965.6972	966.2713	966.8454	967.4196	
high	1064.731	1065.371	1066.012	1072.146	1078.286	1084.432	1090.586	1096.746	1102.912	1109.085	1115.265	1121.451	1127.644	1133.844	1140.05	1146.262	1152.482	1158.707	1164.94	1171.179	1177.425	1178.125	1178.825	1179.525	
low	948.8957	949.4666	950.0375	954.4085	958.7839	963.164	967.5486	971.9377	976.3315	980.7298	985.1326	989.5401	993.9521	998.3686	1002.79	1007.215	1011.646	1016.081	1020.52	1024.964	1029.412	1030.024	1030.636	1031.248	
band	115.8352	115.9049	115.9745	117.7371	119.5018	121.2684	123.0371	124.8078	126.5806	128.3554	130.1322	131.9111	133.692	135.4749	137.2598	139.0468	140.8359	142.6269	144.42	146.2151	148.0123	148.1003	148.1883	148.2763	
Carbon flux		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Tongass	-0.574133	-0.574134	-0.574132	-0.574133	-0.574133	-0.574132	-0.574133	-0.574133	-0.574133	-0.574133	-0.574133	-0.574132	-0.574133	-0.574132	-0.574133	-0.574131	-0.574133	-0.574132	-0.574134	-0.574131	-0.574133	-0.574134	-0.574133	-0.574133	
low	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322	-0.914322		
high	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543	-0.246543		
Tongass	-0.574133	-0.574134	-0.574132	-0.574133	-0.574133	-0.574132	-0.574133	-0.574133	-0.574133	-0.574133	-0.574133	-0.574132	-0.574133	-0.574132	-0.574133	-0.574131	-0.574133	-0.574132	-0.574134	-0.574131	-0.574133	-0.574134	-0.574133	-0.574133	



| FLUX_TG |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | |
| -0.211883 | -0.211882 | -0.211882 | -0.211882 | -0.211881 | -0.211882 | -0.211883 | -0.211881 | -0.211883 | -0.211882 | -0.211882 | -0.21188 | -0.211883 | -0.211883 | -0.211882 | -0.211881 | -0.211882 | -0.211881 | -0.211884 | -0.211881 | -0.211881 | -0.211883 | |
| -0.574134 | -0.574132 | -0.574133 | -0.574133 | -0.574132 | -0.574133 | -0.574133 | -0.574133 | -0.574133 | -0.574132 | -0.574133 | -0.574132 | -0.574135 | -0.574131 | -0.574133 | -0.574132 | -0.574134 | -0.574131 | -0.574133 | -0.574134 | -0.574133 | -0.574134 | -0.574133 |